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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,445

10/06/2005

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Q75081

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23373 7590 11/02/2007
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EXAMINER

BERNATZ, KEVIN M

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

11/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/552,445

Applicant(s)

SAKAWAKI ET AL.

Examiner

Kevin M. Bernatz

Art Unit

1794

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 19 October 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet. (See 37 CFR 1.116 and 41.33(a)).

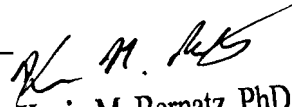
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL -324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: none.
Claim(s) objected to: none.
Claim(s) rejected: 1,3-10,12,13,18,21,22,25 and 26.
Claim(s) withdrawn from consideration: none.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☒ Other: Note the attached PTO-892 (Notice of References Cited).


Kevin M. Bernatz, PhD
Primary Examiner

Continuation of 3. NOTE: Applicants' amendments present embodiments not previously considered, namely that the magnetic crystal grains are required to be "isolated by the oxide". Since this limitation was not explicitly present in the prior version of the claims, additional search and/or consideration would be required to address the proposed claim language..

Continuation of 11. does NOT place the application in condition for allowance because: Applicants' arguments are presented to the unentered amendment. In so far as they apply to the rejections of record, Applicants argue that the '176 patent fails to disclose a first and second crystalline layer that is epitaxially grown upon each other, wherein the first magnetic layer possesses columnar grains and oxide between the grains (pages 8 - 10 of response). The Examiner respectfully disagrees.

First, the Examiner notes that Patent '176 explicitly teach that the first magnetic layer is crystalline, and possesses grains which are isolated by a segregant (which can include oxide) (see col. 2, line 63 bridging col. 3, line 10). Furthermore, Applicants admit that it is known in the art to add oxide to magnetic layers to segregate the magnetic grains (page 3, lines 10 - 27 of Applicants' as-filed specification). The Examiner also notes that it is known in the art that the grains formed from this class of material necessarily result in a columnar structure (e.g. see Kikitsu et al. '824 B2, example 3 at col. 47, lines 6 - 28). The Examiner also notes that "columnar" can be read on by any type of non-spherical grain, as long as one axis is longer than another. As such, absent an explicit teaching of spherical, almost any granular structure would necessarily result in "columnar" grains within the presently claimed language (i.e. the claims do not recite a range in acicular ratio required to meet the term "columnar", nor an orientation of the "long" axis relative to the "short" axis). The limitation "vertically penetrating said lower layer in columnar forms" does not convey sufficient structural limitations to require "columns" of a certain size or orientation.

Applicants next argue that the term epitaxially grown is limited to "a crystal is grown on the surface of another crystal, while retaining a specific crystal orientation relationship" (page 10 of response). The Examiner respectfully disagrees, noting that Applicants' own specification does not support this interpretation of the scope afforded the term "epitaxial growth".

Specifically, the Examiner notes original claims 14 - 17, which clearly teach a non-magnetic layer between the magnetic layers (original claim 14), but still recites that the "crystal grains on an upper side are epitaxially grown from the crystal grains on a lower side" (original claim 15), hence rebutting Applicants' allegation that epitaxially grown requires that the crystal is "grown on the surface" of the other crystal (since the claim specifically requires epitaxial growth between between the crystal grains of the magnetic layer). Same as in original claims 16 and 17, though original claims 16 and 17 also rebut Applicants' argument regarding that a requirement for a specific crystal orientation relationship since claims 16 and 17 basically state that the relationship can be anything: "one to one, one to plurality or plurality to one". Since it can be anything, it effectively is simply requiring that the two layers must be crystalline, which is how the Examiner interpreted the claims.

Regarding the rejection predicated on Kikitsu et al. (either reference), Applicants argue that the opposite stacking order of Kikitsu et al. renders a 102 rejection improper (pages 12 - 14 of response). The Examiner respectfully disagrees.

While the Examiner acknowledges that subject matter related to distinct embodiments are being combined, all of the subject matter is still within the entire disclosure of Kikitsu et al., and the broad teaching of the {functional/recording}n (n>1) laminate structure is open to the granular CoPt-SiOx type recording layer (see disclosure relating to eighth and ninth embodiments). The Examiner has made the additional 103-type rejection in an alternative, since the Examiner acknowledges that Kikitsu et al. does not explicitly teach all of the claimed limitations within a single working example. However, the Examiner does not deem that such a deficiency renders the 102 rejection improper. See also col. 46, lines 54 bridging col. 47, line 29 of Kikitsu et al., which clearly teach that the CoPt-SiOx type "granular" magnetic layers are known to possess columnar-type crystal grains segregated by oxide materials.

Finally, Applicants argue that "there is no case where the granular structure is given to the lower layer" and that one of ordinary skill would not have been motivated to use the granular structure as a lower layer (page 16 of response). The Examiner respectfully disagrees.

Applicants are reminded that limitations in the specification cannot be read into the claims. The present claims are open to additional magnetic layers being present between the oxide magnetic layer and the substrate, hence the structure of a "functional layer"/ "oxide recording layer" / "functional layer" still reads on the claimed invention since the lowermost "functional layer" is allowed by the present claim language. Should Applicants desire to overcome such a disclosed structure, they are suggested to consider amending the claims to positively recite a "non-magnetic" orientation-controlling layer and the lower layer being "directly adjacent" said non-magnetic orientation-controlling layer. Such a limitation would require the oxide containing magnetic layer to be directly adjacent a non-magnetic layer, which would appear to distinguish over the Kikitsu et al. teachings. However, the Examiner notes that further search and/or consideration would be required before any indication of patentability could be fully ascertained..